

QUANTA

QL USERS AND TINKERERS ASSOCIATION

Is this the last year for the
QL BB as we know it?

Important information inside
in this timely AGM issue

Some listings for you to type
in and modify to your H.D.



2012

FEB

MAR

The Magazine

For all things QL related since 1984

Information on the Association

Membership of QUANTA, the independent QL user group, is by annual subscription. The Membership Secretary can supply full details. Copies of the association's constitution & annual accounts are available from the Secretary. There is an extensive software library. There are active national subgroups. Details are given in the Member's Guide and in this magazine.

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COPY DATE for APRIL/MAY 2012 ISSUE is:

31st March 2012

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Another exciting issue as the annual edition of QUANTA's accounts and the important changes are included as a separate pull-out. A few members have written in recently to thank us for the continued support for the QL and its derivatives and they also state how much they enjoy reading the QUANTA magazine. I hope you like our slightly new look to the front cover and for those of you who receive this electronically you will notice a bit more colour on the front page also.

This is the final issue before the all important AGM, and a final reminder from me that your vote is important so use it. There have been a few amendments to the QUANTA constitution over the last year to clear up many anomalies and to move with the times.

The costs of getting the QUANTA magazine out to all and the website (now up and running) with more news stories etc. has meant a small in real terms increase in the subscription, lest we forget QUANTA is run by volunteers. It is likely that we will see again this year many QL related hardware and software possibilities, some may use the QL Black Box and some may not. Whatever happens QUANTA will be here to serve the QL community as best it can.

We have some great programs for you to explore from regular submitters Steve Poole and George Gwilt, with Steve setting some challenges for the rest of us and George giving tantalising titbits for the future. Looking forward to another year of QL'ing and maybe see you at the AGM.



If you have QL-related news items that you'd like us to include on this page, please get in touch with News Editor - Dilwyn Jones at news@quanta.org.uk

Urs König's QL Videos On YouTube

Urs König writes:

Recently Google renewed YouTube's channel design. I took this as a chance to give my QL related web activities a re-launch. I've decided that my YouTube channel QLvsJAGUAR becomes my main site from which all content can be reached.

<http://www.youtube.com/QLvsJaguar>



Gold Card/Super Gold Card Battery Replacements

After a long running development phase for these devices, it seems they may be nearer to seeing the light of day.

Dave Park wrote on QL Forum during January:

After early testing, everything is electrically sound, but there are two mechanical issues:

- 1. The pins I selected are just fractionally too small for the turned sockets on some GCs and SGCs.*
- 2. The style of battery holder I purchased isn't ideal - they are right on the dimensional limits, and when typing, can make intermittent contact with the metal under-tray of the keyboard - unacceptable.*

I have modifications for both.

Blast Buggy Re-Released

RWAP Software have now been able to re-release the Blast Buggy game for the QL, by Paul Tuck. This was originally sold by Shadow Games, but the rights to it were acquired by Talent+ so RWAP were able to bring it back to market.



Rich Mellor wrote that he “found this game quite hard so couldn’t get a good screen shot.” Here’s one picture reproduced from

SellMyRetro.com.

Rich also wrote that Paul Tuck wrote at least two other games – Space Paranoids and QL Defusion, and says he “would love to get hold of him, so that he can sort re-releasing QL Defusion.”

Gwass Update

George Gwilt has released version 5.07 of the GWASS assembler program. It is available to download from his website at <http://gwiltprogs.info>

George writes:

1. This allows the use of JSR.L adrs to mean JSR.L (adrs).L. The same applies to JMP. These work whether adrs is an explicit absolute address or a label.
2. Byte sized immediate <ea>s on assembly should now all produce a word with the first byte zero. Previously such an instruction as

MOVE.B #-2,D0

would have had \$FFFE as the word. This will now assemble to \$00FE.

New Q-emuLator Blog

Q-emuLator author Daniele Terdina has announced the new Q-emuLator blog, at <http://qemulator.blogspot.com/>

This will likely be a low-traffic blog, mainly a place where to announce availability of new



updates to existing users.

An update for Windows has just been released, and an update for OS X is in the works.

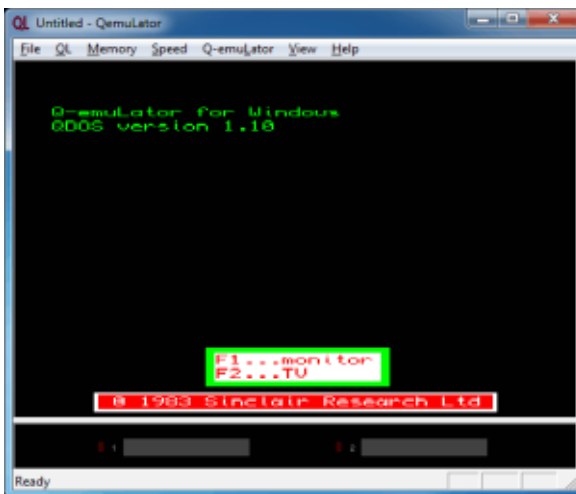
Q-emuLator 3.1 for Windows now available.

January 29th, 2012 saw the release of version 3.1 of Q-emuLator for Windows, adding support for compressed floppy disk images and improving the accuracy of 'QL Speed' emulation.

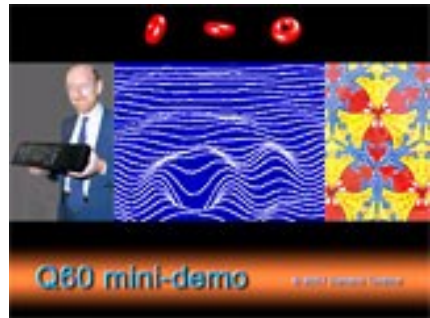
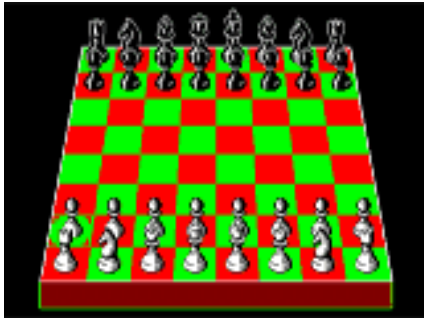
This latest version is available to download from <http://www.terdina.net/ql/wingl.html>. If you are already a user of Q-emuLator version 3.0, your registration code will still be valid for update to this new version 3.1.

A number of 'qlpak' software packages are available to download from <http://www.terdina.net/ql/software.html>

There is a version of Q-emuLator available too for the Mac OSX system – see <http://www.terdina.net/ql/MacQL.html>



Q-emuLator startup screen. Remind anyone of a QL?



Psion Chess and a Q60 display emulation demo program for Q-emuLator

QL SD Card System

Peter Graf has announced that his QL-SD project is being passed to Adrian Ives at Memory Lane Computing to finally bring to market. Peter has expressed his gratitude to Adrian for his willingness to move forward with the QL-SD, as Peter's lack of time had meant he was unable to bring it to market.

This is a small SD card interface which replaces one of the Microdrives on a QL. Thus the Microdrive cartridge slot chosen becomes an SD card slot and looks very professional from the pictures I have seen of it.

Adrian Ives gave this description of how the product stands at the moment:

“The hardware is working on black box QLs but there are still some issues to be overcome relating to noise pickup. This is especially problematic if the SD card holder is mounted in a vacated Microdrive slot. Peter has already redesigned the PCB to get around this problem.

Q U A N T A

Independent QL Users Group

World-wide Membership is by subscription only,
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Regional Sub-Groups. One near you?

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***** Now in our Twenty Ninth Year *****

Further details from the Membership Secretary

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<http://www.quanta.org.uk>

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Next QUANTA Sponsored Event

Annual General Meeting 2012 And Workshop, Date: Sat/Sun 24th/25th March

Opening on Saturday at 11.00 am (Doors open 10 am for setting up),

Sunday at 10.00 am with the AGM at 2.00 pm in the afternoon.

The Venue will be in Manchester at the

3rd Davyhulme Scout Headquarters, "The Endeavour",

Conway Road, off Lostock Road, Davyhulme,

Manchester. M41 0TF. Near M60 J9.

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There are problems with the Super Gold Card that have not yet been resolved. The Gold Card has not been tested at all (because I don't have one).

The software is written. There are two drivers available:

1) QL-SD, a driver written in C derived from Dirk Steinkopf's QL-HD driver. At present this is too big to fit into a 16K EPROM and needs further optimisation.

2) An EDDE 2 driver that is both compatible with the Ser-USB and USBWiz over Q-BUS and is able to mount FAT32 volumes holding file system images. This is ROM-able and supports booting from an SD Card. All v2.x Ser-USB/Q-BUS utilities (Partition Manager etc.) work with this and the partition formats are identical.

3) An EDDE 2 Block Device Interface driver for Q-emuLator's emulated hardware interface. This allows file system images to be accessed on the PC and read/written by QL software running under Q-emuLator.



Memory Lane Computing website

QUANTA Magazine

I currently have two functioning hardware prototypes:

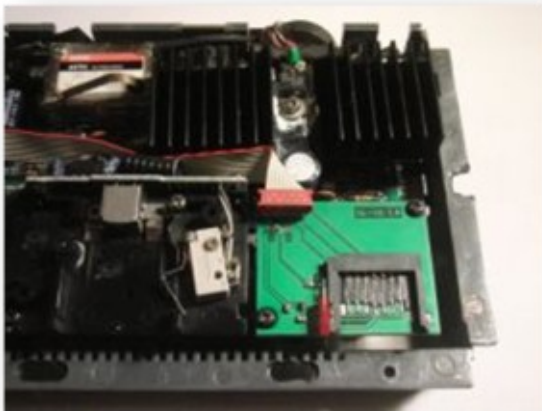
The QLROMEXT which plugs into one of the QL's internal ROM sockets.
The SD Card carrier fits into a vacated Microdrive position.

The QLROMEXTernal
which plugs into the ROM
port with the SD Card
socket on-board.”

Adrian also reported that a
small number of prototype
units may be available for
testing in early March.



Further details will be
available in due course from the Memory Lane Computing website at
<http://www.memorylanecomputing.com/>



Pictures of early versions of the QL-SD interface, mounted in the MDV2_ slot in a QL.

Classic Adventures Solution Archive

A number of files about QL adventure games are now available from the Classic Adventures Solution Archive (CASA). This website contains articles and solutions about a large number of classic text adventure games from over the years, including 31 entries (at the time of writing) about QL games.

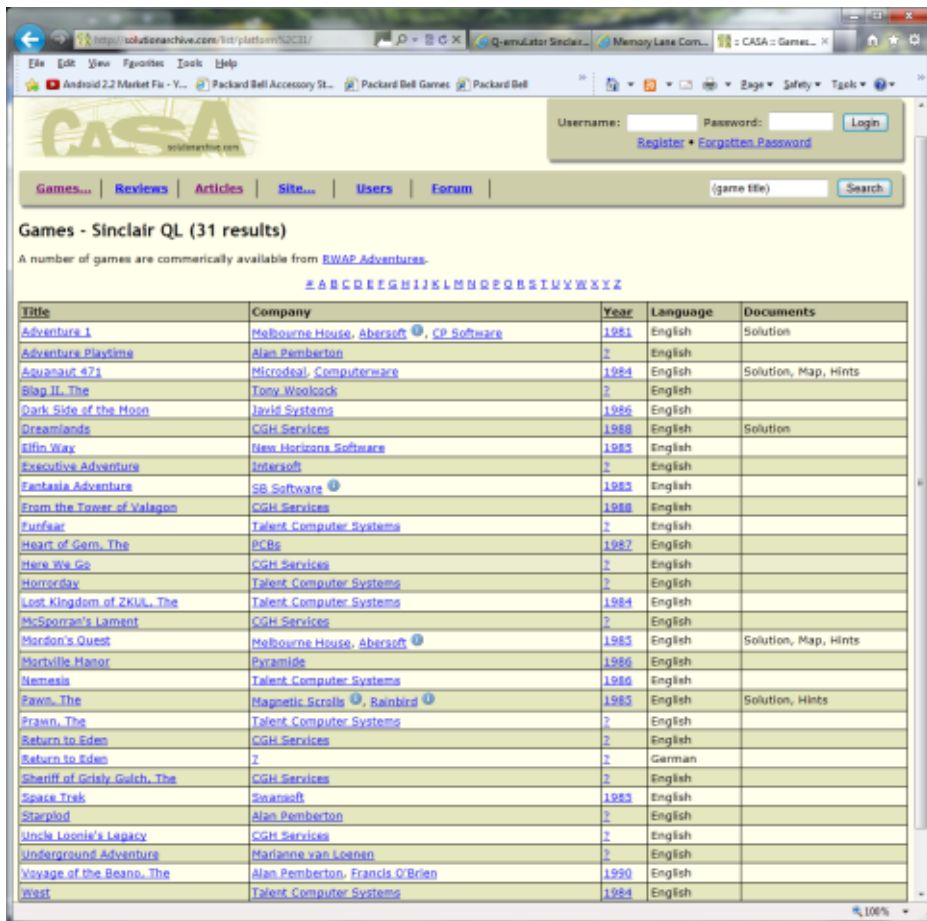
In their words, CASA is “All about text adventure games, the best (and oldest) type of computer game known to man!”. The site covers all 8-bit and 16-bit formats. Information, solutions, maps, hints, reviews and more.

CASA is not about game downloads – but there are plenty of places to find these games. For example, they include lots of references to our very own RWAP Software and to QL text adventures such as Dreamlands, From The Tower Of Valagon and The Pawn.

In other words, a wealth of information for any QL game players!



CASA website



CASA's QL adventure games listing

TheQL.co.uk

Stumbled across an intriguingly named website the other day. Visit <http://www.theql.co.uk> and you'll see what I mean. Pictures of QLs and accessories? Plenty. QL Videos? Plenty. Blog? Yup. Contact details – ah, problem. go to the Contacts page and if you want to contact the author of the website, just don't bother using the first email address you

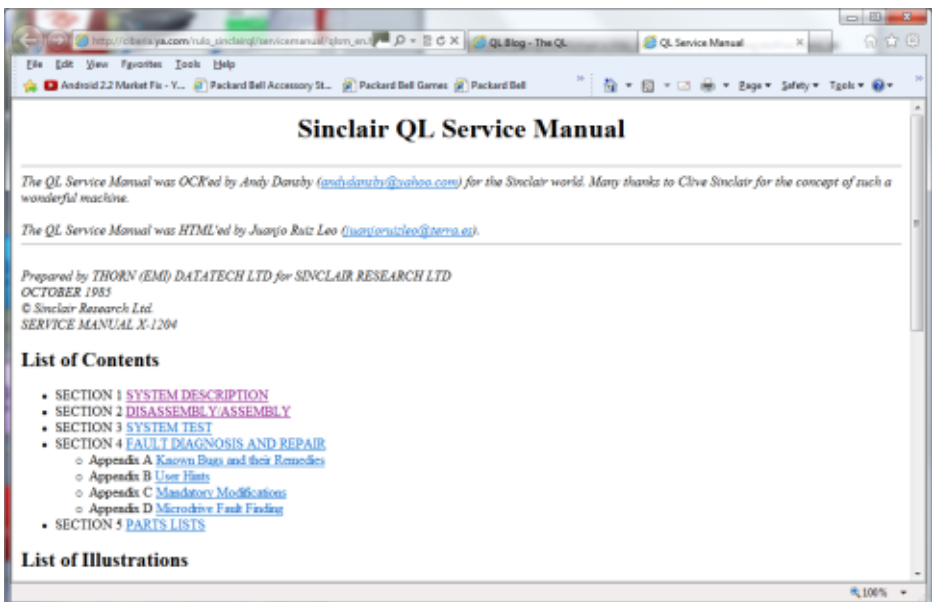
see there, read all the page first. Oh, and have a pair of dark glasses for when you first visit the site, it's ... ermm ... colourful. The author of the site is not a million miles from QUANTA committee but here's a clue – it wasn't me. OK, after taking the Michael a little, there's a lot of interesting stuff on there, so pay the site a visit and follow the blog.

QL Service Manual Online

You can now find an online copy of the QL Service Manual as HTML pages and clickable links to help you navigate from one part to another and find the topic of interest to you.

The QL manual was originally OCR'ed by Andy Dansby and was HTML'ed by Juanjo Ruiz Leo.

Read it online at http://ciberia.ya.com/rujo_sinclairql/servicemanual/qlsm_en.html



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Visit the QL Wiki for more details on software, books and hardware for the Sinclair QL:
www.rwapadventures.com/ql_wiki

RWAP Software
3 Dale View Court, Fulford, Stoke-on-Trent
Staffordshire ST11 9BA
Tel: 01782 398143
Email: rich@rwapervices.co.uk

UK Cheques payable to 'R. Mellor' or use PayPal.

Website:
www.rwapsoftware.co.uk or www.sellmyetro.com



Why a bad keyboard membrane could change your whole career strategy!

Working to safeguard the QL for the future. www.rwapsoftware.co.uk

QUANTA Workshop and AGM 2012

I hope we'll see as many members (and non-members) as possible at the workshop over the weekend of 24-25 March 2012. At the time of writing I have heard from several QL notables who hope to attend and give talks at the event, e.g. Adrian Ives of Memory Lane Computing hopes to give a talk on his QL products, including the new Peter Graf QL -SD card interface, George Gwilt hopes to attend and give a talk on his software, we may have a presentation on QL games and QL eBooks too. The workshop venue is easy to find – if coming by car turn off the M60 motorway at junction 9 onto Lostock Road (B5150), heading for Davyhulme and Urmston. Take the second exit on the right onto Conway

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Road and the Scout headquarters is the building on the right on the first corner of Conway Road. See you all there!

It is actually quite important that members attend the AGM on the Sunday as we will be voting on updating the QUANTA constitution, as discussed in the magazine during the last few issues. Geoff Wicks and Rich Mellor have been helping the committee draw up the revised constitution to make it suitable for carrying QUANTA forward. Simple examples of the changes proposed are that unmarried partners can be associate members, not just spouses, but there are quite a few other changes proposed too.

Come along and express your views, or if you are happy with the proposed changes come along to vote – the more participants the better.

FPGA QL

There has been a lot of talk recently on QL Forum about the possibilities of producing an FPGA-based QL.

What is an FPGA, exactly? Well, here's a short quote from Wikipedia, you can see the full article at

http://en.wikipedia.org/wiki/Field-programmable_gate_array

A field-programmable gate array (FPGA) is an integrated circuit designed to be configured by the customer or designer after manufacturing—hence "field-programmable". The FPGA configuration is

generally specified using a hardware description language (HDL), similar to that used for an application-specific integrated circuit (ASIC) (circuit diagrams were previously used to specify the configuration, as they were for ASICs, but this is increasingly rare). FPGAs can be used to implement any logical function that an ASIC could perform. The ability to update the functionality after shipping, partial re-configuration of the portion of the design and the low non-recurring engineering costs relative to an ASIC design (notwithstanding the generally higher unit cost), offer advantages for many applications.

FPGAs contain programmable logic components called "logic blocks", and a hierarchy of reconfigurable interconnects that allow the blocks to be "wired together"—somewhat like many (changeable) logic gates that can be inter-wired in (many) different configurations. Logic blocks can be configured to perform complex combinational functions, or merely simple logic gates like AND and XOR. In most FPGAs, the logic blocks also include memory elements, which may be simple flip-flops or more complete blocks of memory.

Where this discussion got really interesting was the revelation that Peter Graf (designer of the Q40 and Q60) has had a hardware QL design based on an FPGA ready for some time, but has sensibly avoided publicising it as he has no operating system finished and ready for it. He has tried to implement a version of both Minerva and QDOS Classic for the board but is struggling a little with implementing both. Using SMSQ/E is not an option because of licensing issues.

Please do not expect that this “new QL” system will be available soon – but now that knowledge of it is filtering out Peter may be able to get assistance with implementing the operating system. As you will see above, the use of FPGA chips allows potentially for a lower cost design as just one benefit.

Ready or not, it is encouraging to see that new hardware is being developed and we can only hope that this system will eventually see the light of day. We wish Peter good luck with finalising this project.

Vbcc For QDOS

An interesting posting on the QL Forum jumped out at me during January. The posting was from Markku Reunanen in Finland and may prove of interest to those with an interest in the C language. I'll just reproduce the posting here and leave those with an interest to look into it.

I tried to find a working cross-compiler for my QL, but couldn't really find anything except a non-working GCC hack. GCC is so convoluted that I didn't want to spend the rest of my days porting it, but vbcc (<http://www.compilers.de/vbcc.html>) seemed to be a lot easier to tweak, and still a real optimizing modern compiler.

My findings can be found here: <http://www.kameli.net/marq/?p=1251>. To make a long story short, it works. My solution, done in a day or so, is full of kludges, but with a little more attention, plus QL-specific libs and

GENERAL	TOPICS	POSTS	LAST POST
The Wilcaine Area Introduce yourself here!	23	163	By gonzoblar Fri Feb 10, 2012 3:56 pm
Help for New Users A section for new users to ask for help and also for people to post helpful tips.	14	97	By olimas Mon Feb 06, 2012 12:59 pm
General QL Chat A place to discuss general QL issues.	50	306	By magnus101 Fri Feb 10, 2012 2:31 pm
Hardware Asking hardware related questions? Post here!	70	589	By thorspaul Fri Feb 10, 2012 12:35 pm
Software Anything QL software related.	64	511	By magnus101 Thu Feb 09, 2012 9:25 am
QL Emulation Discussion and advice about emulating the QL on other machines.	22	122	By Shane2 Sun Feb 05, 2012 10:23 pm
Compatible Corner Get advice to discuss topics around QL compatible computers, such as the Treo, Rambo, Q40 and Q40.	2	25	By magnus101 Fri Jan 06, 2012 11:25 pm

MARKETPLACE	TOPICS	POSTS	LAST POST
For Sale Sell your QL items here!	19	81	By RAWP Thu Feb 09, 2012 9:28 pm
Wanted Looking for that hard to find item? Post here!	13	65	By Dank Thu Feb 02, 2012 8:40 pm

QL FORUM

the online
community
for all things
QL.

Re: My game development thread
On [Wednesday, 7 Feb 2013, 01:12:00 pm](#)

A quick one with the super girl we had my personal steering, only to take to the power. Rambo, Rambo and computer game off looking to see that it is not to be too far from the home base and do all the stuff which is some case make it work and replace it together.

My idea!

Re: My game development thread
On [Wed, 14 Feb 2012, 10:44:41 am](#)

If you are having problems with 200, 300 etc. do you need some job printed? For this may be a possibility if you can have them over program while using the steering ability.

Re: My game development thread
On [Wed, 14 Feb 2012, 10:44:41 am](#)

The Sinclair QL Forum
A Place for Sinclair QL Users to Meet

Search [] Search
Advanced search

Board Index

Register Login

It is currently Fri Feb 10, 2012 3:51 pm

View unanswered posts + View active topics

GENERAL

TOPICS POSTS LAST POST

The Wilcaine Area
Introduce yourself here!

Help for New Users
A section for new users to ask for help and also for people to post helpful tips.

General QL Chat
A place to discuss general QL issues.

Hardware
Asking hardware related questions? Post here!

Software
Anything QL software related.

QL Emulation
Discussion and advice about emulating the QL on other machines.

Compatible Corner
Get advice to discuss topics around QL compatible computers, such as the Treo, Rambo, Q40 and Q40.

MARKETPLACE

TOPICS POSTS LAST POST

For Sale
Sell your QL items here!

Wanted
Looking for that hard to find item? Post here!

Re: My game development thread
On [Wednesday, 7 Feb 2013, 01:12:00 pm](#)

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On [Wed, 14 Feb 2012, 10:44:41 am](#)

headers, it could definitely become a very useful tool. The current hack works enough for me, but I'd be glad if someone took the porting over, eventually even turning it into a real vbcc frontend.

Markku and a friend also put together a QL demo – again I'll reproduce the posting here complete with links for those interested readers to follow up, something I personally haven't had a chance to do yet:

A little something me and a friend hacked together as our first QL production (source included):

<http://ftp.kameli.net/pub/fit/misc/nyanleap.zip>

Tested only on a barebones original QL, so I have no idea whether it runs on emulators, SMSQ/E, accelerators etc. Kinda ugly hacking at places, but I just couldn't find any guidelines as to how to do things the right way for the more advanced machines.

Video here: <http://www.youtube.com/watch?v=mMVFrKQ2gRY>

QL Manual eBook

Adrian Ives has kindly sent me a scanned copy of the QL manual, second edition. I'm not quite sure of the full differences between the versions, except that I notice that comparing this with the first edition on which my plain text version was based that there is the occasional different text.

Anyhow, I am busily proof reading and converting this to eBook format

and any other useful formats I can think of, and I'll make it available via the eBooks page on my website <http://www.dilwyn.me.uk/docs/ebooks/index.html>

This will include the Introduction, Beginners Guide, Keyword Guide, and Concepts sections initially, and if possible (and time allows!) I may go further and reproduce the Quill, Archive, Abacus and Easel guides too. We know that there are some new users out there who buy a QL from sources such as eBay and SellMyRetro.com without manuals, so this would seem to be a viable and worthwhile project.

Looking ahead a little, a possible next step in the project might be to produce a keyword guide which is a merged QL and Toolkit 2 keyword reference guide as most of us use QL systems which have Toolkit 2 and I for one often need to refer to both guides to check syntax of keywords I don't use very often. And beyond that, another logical step might be an HTML online QL Guide perhaps! If anyone has views on whether these are worthwhile projects, or even offers of help with the work, I'd be very grateful to hear from you!

TIME & TIME THE ERROR

Lee Privett

Well, no sooner had the last issue gone out when I received a correspondence telling me the error of my ways with regard to the programming and timing I was trying to achieve. I had made a 'classic mistake' in code for the timing in assuming the start point would not be relevant,

which it is. The following is part of the last issues coding and is highlighted with the offending piece:

```
100 REMark Clock test
110 :
120 WINDOW 512, 240, 0, 0
130 IF VER$='HBA' THEN COLOUR_QL
140 MODE 8
150 PAPER 1:INK 6:CLS
160 :
170 Countdown 10
180 :
190 DEFine PROCedure Countdown(st)
200 CSIZE 3,1
210 StartTime=DATE
220 FOR f = 0 TO st
230 AT 5,5:PRINT st-f;" "
240 REPEAT loop
250 IF DATE>=(StartTime+f) THEN EXIT loop:
END IF
260 END REPEAT loop
270 END FOR f
280 END DEFine Countdown
```

What I had omitted to take in account when 'running' the program is the time taken for all the bold/italic parts to be interpreted by the processor. In addition, line 210 is the starting point to which all my timings are based on yet my test on line 250 checks for the end of a complete second so who is to say where in the 'one second' cycle line 210 actually starts.

There are two ways in which this can be overcome, one is to extend the

time by increasing the count start from the first whole second, the other is a complete re-write. I thought before giving my solution in the next issue was to see if any other QUANTA members can come up with a more eloquent solution. One of our other contributors submitted a version of their method of timing, Steve Poole wrote :

I use the following code,

```
200 d1=date: if d1=DATE: GO TO 200: ELSE d1=DATE
210 blah blah
330 PRINT DATE-d1!'secs'
```

Line 200 waits for the clock to tick, while line 330 is only accurate to the nearest second. If you don't do this, you can be almost two seconds out! A lot for short delays...

George Gwilt has given a method of using the internal timer accurate to 1/50th second.

So readers this is your challenge, can you do better?

QUANTA HELPLINE

Dilwyn Jones

Q.

I tend to have a large number of toolkits installed on my QL which take up a lot of memory. Is it possible in some way to extract just the extensions I use regularly from them? Also I would like to merge some of them into one file so that they load faster if possible.

A.

A program called DEA, a disassembler program from Ergon Development, can in some cases extract keywords from toolkits. DEA used to be a commercial program but is now available as freeware from either of these websites:

<http://www.sinclairgl.it/qlpage.htm>

or

<http://www.dilwyn.me.uk/asm/index.html>

The program comes with instructions in Italian and English. Here's an example where I am extracting the MOVE_MEMORY command from Turbo Toolkit.

First, start the DEA program itself. This brings up the menu shown in Figure 1

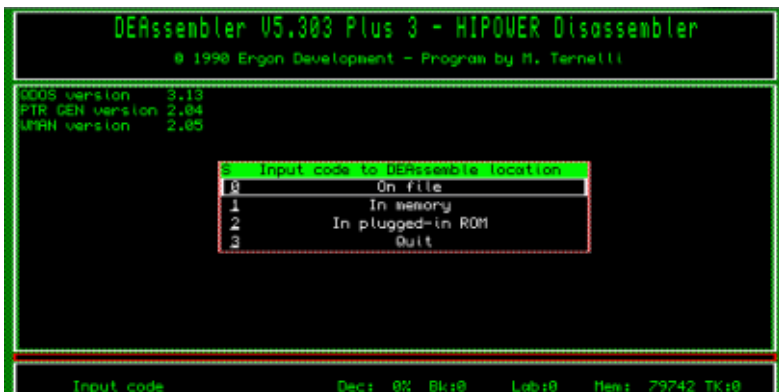


Figure 1

Move the highlighter over the "On File" command as shown in Figure 1 and press SPACE or ENTER. This will take you to the screen shown in Figure 2.

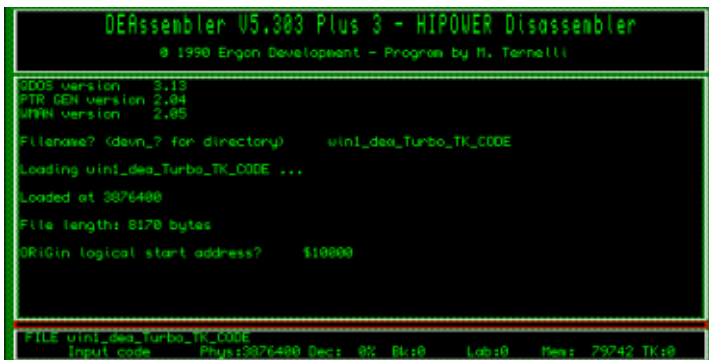


Figure 2

It now asks for the "Origin logical start address". Press ENTER to accept the suggested default value, which will be correct. Press ENTER again to accept the default for the next entry, "Program execution start from code start offset". This now brings up the Main Menu. Move the highlighter bar down to "Enter Keywords Manager" and press SPACE or ENTER.

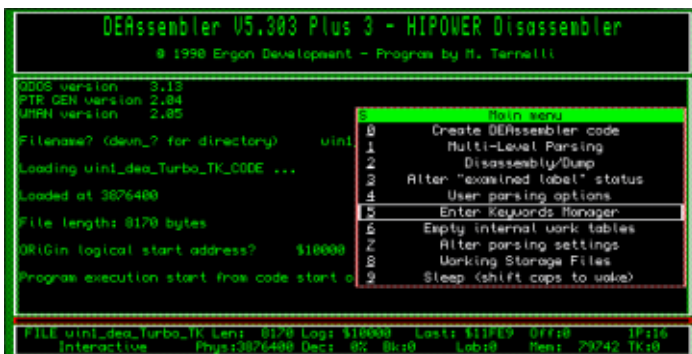


Figure 3

Now ensure that the highlighter is on "Edit Keywords" (see Figure 4) and again press SPACE or ENTER.

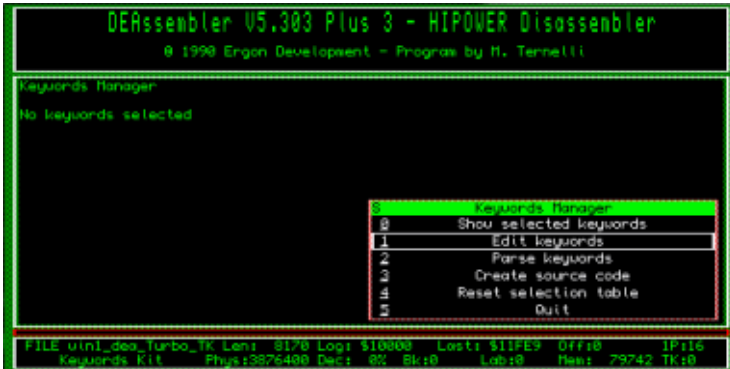


Figure 4

Now you need to enter a series of responses to questions the program asks you.

First, enter the name of the keyword you wish to extract. For the purposes of our example, this will be the MOVE_MEMORY command, so enter "MOVE_MEMORY" (without the quote marks). DEA looks for the keyword, then asks if you would like to "Keep track of MOVE_MEMORY?". Press ENTER or Y for Yes.

Next, it asks if this is a procedure. In this case, MOVE_MEMORY is a procedure, so press ENTER or Y for Yes (if it had been a function you would have replied with N for No).

Next, it asks for the next SB (SuperBASIC or SBASIC) keyword name,

but we don't wish to do any more at this stage, so press ENTER to return to the keyword manager menu.

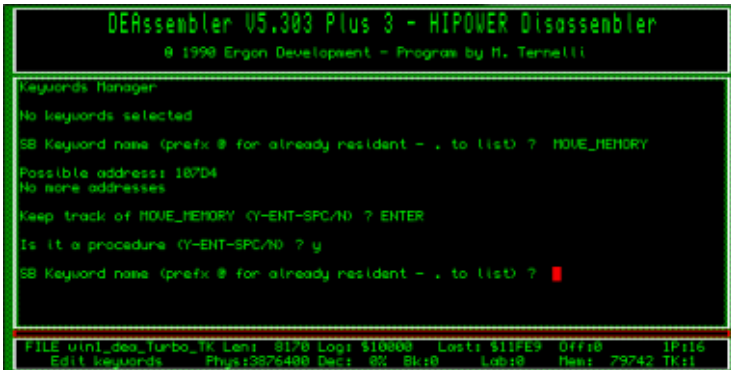


Figure 5

Now it asks "Parse keywords?". press ENTER and the menu in Figure 6 appears.

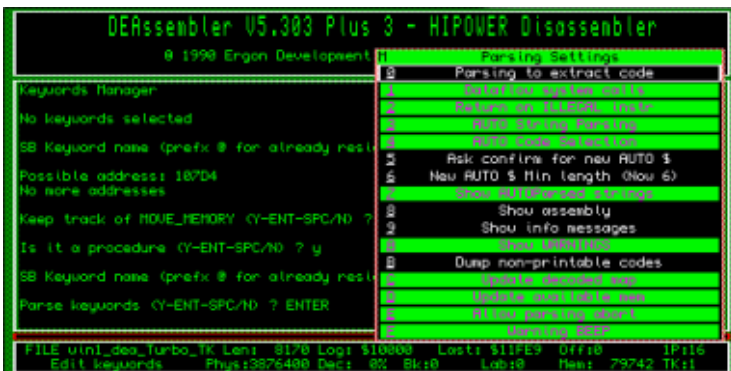


Figure 6

Press ENTER to accept the suggested defaults. When you see the message "Keywords Parsing Complete" in the DEA main window the

Keywords Manager menu will reappear. See Figure 7

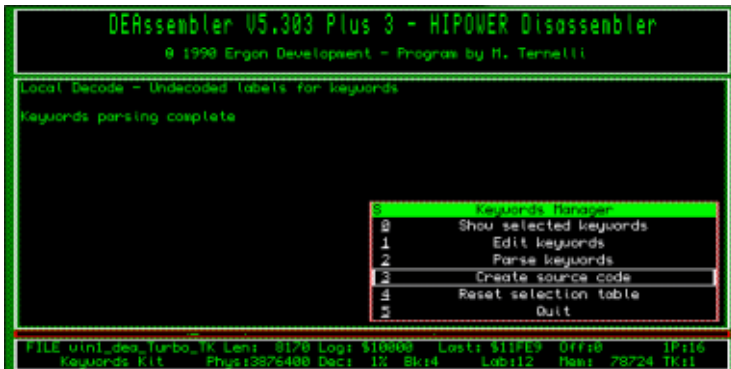


Figure 7

Choose item 3 in this menu, "Create source code" and press ENTER, which then brings up the "Output Stream Choice" menu, as shown in Figure 8.

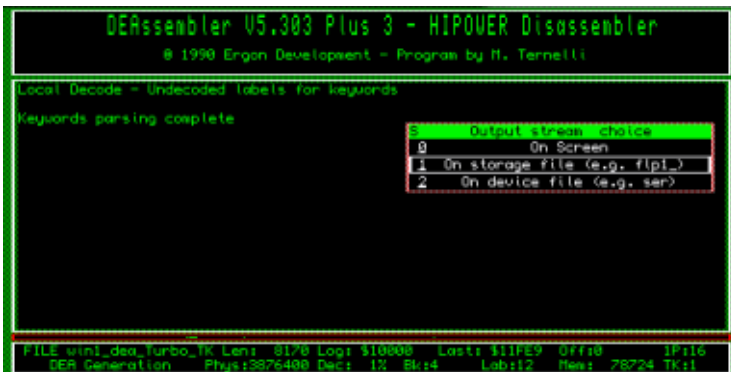


Figure 8

This lets you specify where to send the output file to - this can be to

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screen, to a device file such as SER1, or (the option we want) which is to a file. Select the default of "1 On storage file (e.g. FLP1_"). Next, it offers a default filename for the assembler file - which in our case may be something like FLP1_Turbo_TK_asm or WIN1_DEA_Turbo_TK_asm. If you wish, edit this filename to something more suitable such as FLP1_MOVE_MEMORY_asm or WIN1_DEA_MOVE_MEMORY_asm

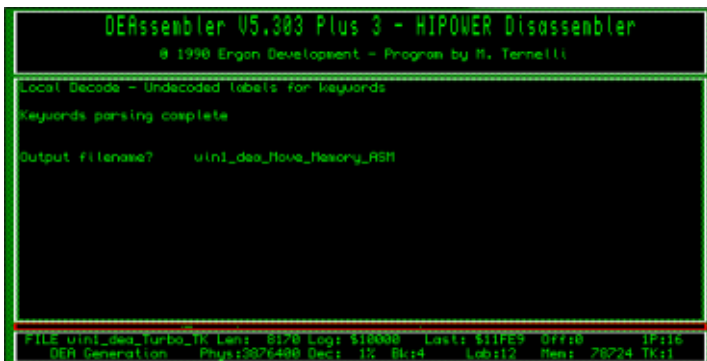


Figure 9

After this it shows the DEA Code Generation Menu - see Figure 10.

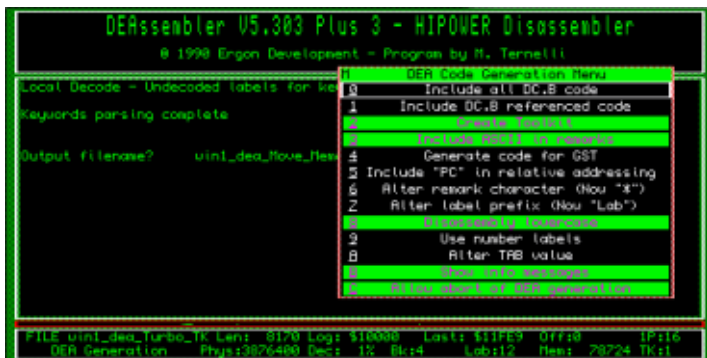


Figure 10

Assuming these defaults are OK (they will be fine for our example purposes) press ENTER. The DEA Code Remarking Menu now appears - see Figure 11

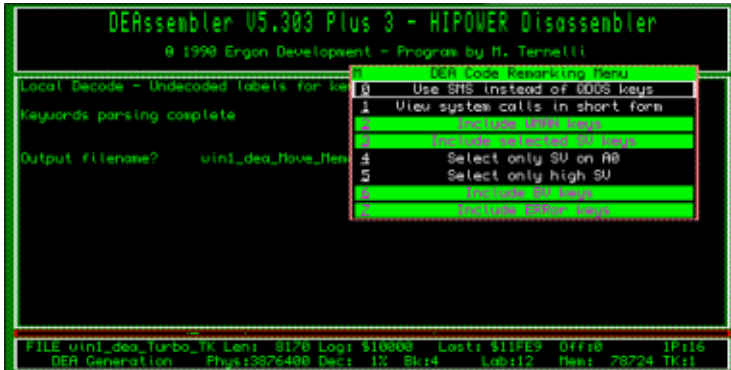


Figure 11

Press ENTER again if all these defaults are to your liking. The program now goes ahead and generates the disassembled output code with the filename you entered above.

Now you can load the assembler code generated into an editor to tidy up by hand, add comments, add more code, etc. then assemble it with your favourite assembler. Note that if you are using the GST QMAC assembler, you need to study the details in the DEA manual for how to set DEA to generate code suitable for use with this particular assembler.

DEA is not a miracle worker - it cannot be expected to handle each and every extension in each and every toolkit of course, but it will be fine for most.

Copyright

Note that there may be copyright implications in extracting keywords from some toolkits like this, plus of course you need to have a little knowledge of assembler on the QL to be able to use an Assembler program to reassemble the code you have extracted. Read any copyright notices or licences supplied with the original toolkit to see if you are OK to do this-generally it will be fine if the code generated is for your own use only, but it may be a different matter if you include the new code in a program which you intend to sell, for example.

Combining Extensions Into One File

There are a few free programs available to combine extensions into one single file and I will list two such examples here.

The first is a utility program from Richard Kettlewell called P-Link. This is available from the usual PD QL software sources. Execute the program called PLINK and it will ask you to enter the filenames of the extensions files to be merged, until you make a blank entry and then it will ask you for a filename to save the combined set of extensions. It's that simple!

You can also call it with an input parameter filename of a list of files to be merged, followed by a blank line, followed by the output filename. As an example, we will create the following file, which we will call FLP1_EXAMPLE_TXT:

flp1_ptr_gen

flp1_wman

flp1_hot_rext

flp1_mergedkit_cde

You would call this with something like:

```
EX PLINK;'< FLP1_EXAMBPLE_TXT'
```

So what this does is to load and merge ptr_gen, wman and hot_rext and save all three in a single combined file called "mergedkit_cde". This is an example only - you would not normally wish to merge these particular files. If you wish to look at how it works, the package includes the source code, written in C.

A second program to do this is Emmanuel Verbeeck's Super Kit Merger, also available from the usual QL software sources. Figure 12 shows what the program looks like when it starts.



Figure 12

Figure 13 shows what it expects you to enter.



The image shows a terminal window with a green background and a red border. At the top, it displays the text: "Full names of input LRESPR files" followed by "Hit <ENTER> alone when finished." Below this is a large white rectangular input area. Further down, there are two more input fields, each preceded by a prompt: "Full name of newly-created toolkit" and "Full name of newly-created loader".

Figure 13

In the top window, you'd enter the filenames of the extension files to be merged, pressing ENTER on a blank line to finish the list. Next, in the second box down, you enter the filename of the merged file you wish to create. In the third box down you can enter a filename for the program to create a short BASIC loader program, a kind of BOOT file if you wish.

Like P-Link, this program also comes with the source code, this time written in SuperBASIC, if you'd like to study how it works. When using programs like these it goes without saying that you should keep backup copies of the original files in case you wish to go through the process again at some date in the future!

P-Link and Super Kit Merger can be downloaded from the Assembler page on my website, at: <http://www.dilwyn.me.uk/asm/index.html>

Last time we looked at text tallying using base-36 conversion routines. This time we will use base-27. Why base 27 and not base 26? Because Dilwyn's conversion routines were designed to convert decimal numbers to any base, provided the first number in that base be zero.

When I tried adapting his code to convert decimal numbers to the alphabet of 26 characters, the letter 'a' was zero, concatenated onto the following digits, so any word beginning with 'a' had its leading zeroes dropped. I did not notice this until I started thoroughly testing the code, and it took me seven hours to pin down the bug, as even tracing through the code by printing out each partial variable step did not reveal the cause, until I started using BEEPS, which showed that something unprintable was happening. Once twigged, a remedy was needed, and soon I realised that if I used 27 characters instead of 26, the first character could be anything, say '#', so it wouldn't matter if it never got printed (being zero). This worked fine which is why this program is called TEST.

So A is 1 up to Z which is 26. Before base conversion alphabet characters are offset to alphanumeric values. This program should not be tampered with. If you wish to test it, you may change the following line 160 variables : option=2 to sort your own words, input here. lg=1,2,3 or 4 to define the length of words to sort. nwords=2 to 32000000 number of words to sort. pr=0 to stop screen printout for more than say 90 words.

The program has been quite thoroughly tested over the nine month development period since the original tally integer sort was first modified to allow massive compression of input.

Should you find any problem, please contact the Editor, who will put you in contact with the author. Referring back to the previous article, it is clear that with 128Mo of RAM allocated, Text tallying can only sort four-letter words. After emailing George Gwilt, he gave me permission to use his 64-bit precision arithmetic routines, but I later realised that the current limit of precision stems from SuperBASIC's internal floating point conversion restricting the number of digits after the decimal point. Even with George's routines, a 32-bit PC cannot sort more than four-characters per word using text tallying. (That is, assuming a maximum word rank of 'zzzz').

Evidently with a maximum word rank of 'bcde', word lengths could be higher. for example, the program can handle 'dilwyn0', but not 'dilwyn2' (These values are just a remarkable coincidence!).

Later I wrote a base-4 program and got ten-character sorting, which could be used for sorting the genetic markers A C G T, mapped as A B C D. But let's face it, the ultimate goal is to sort any-length words, which would require a high-end scientific super-computer, so tallying text is not suitable for home PCs. But in view of the fantastic compression rates and blistering speed, it would be a pity not to develop the program for such high-end machines. So Dilwyn and I have decided to allow anyone who wishes to use our tally text sorting code to do so as long as they

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make no limitations on anyone else who wishes to use such code. To recapitulate, tallying is the fastest integer sorting code available, but text tallying will probably only show its full potential in a few niche situations.

If you have access to high-end computers and wish to develop text tallying, Dilwyn and I would be very pleased to hear of any developments.

```
100 :
110 REMark Test_bas: Tally_Base_27 by S.Poole,
v10feb2012
120 CLCHP: CLEAR: OPEN#1,con_128: WINDOW
256,206,256,0: PAPER 2: INK 7: CLS
130 :
140 REMark MAIN sorting program :
150 REMark Change lg (nbr chars), nwords, or pr
(print) only :
160 a=97: z=122: option=1: bas=27: lg=4: nwords=32:
pr=1
170 INIT: Loadem: SHOWem: RECHP adr: STOP
180 :
190 DEFine PROCEDURE INIT
200 LOCAL n$,dn$,ndec,Tb$,u$,nmax
210 REMark define Highest rank word in the list:
220 SElect lg
230     =1: n$='z'
```

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```
240      =2: n$='zz'
250      =3: n$='zzz'
260      =4: n$='zzzz'
270      =REMAINDER : PRINT'no such program': STOP
280 END SElect
290 dn$=down$(n$): ndec=To_Dec(dn$,bas):
Tb$=To_Base$(ndec,bas): u$=up$(Tb$)
300 PRINT n$,dn$,ndec,Tb$,u$\
310 nmax=ndec: ramtop=nmax*2: adr=ALCHP(ramtop+2)
320 END DEFine
330 ::
340 DEFine PROCedure Loadem
350 LOCAL ct,f,wd$,i$,dn$,rand,r2,cell
360 d1=DATE: IF d1=DATE: GO TO 360 : ELSE d1=DATE
370 REMark allocate the tallys:
380 FOR ct=1 TO nwords
390     :
400     SElect option
410         REMark Make random words:
420         =1: i$=''
430             FOR f=1 TO RND(1 TO lg)
440                 wd$=CHR$(RND(a TO z)): i$=i$&wd$
450             END FOR f
460         REMark input your own words using this
option:
```

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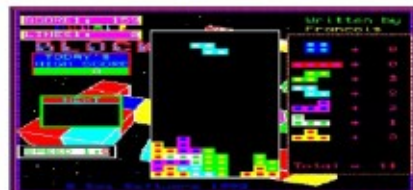
Vroom by Pyramide



E.V.A. by Westway



Mortville Manor by Pyramide



Double Block by Francois Lancault



Night Nurse by Microdeal

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```
470         =2: INPUT '>'!i$
480     END SElect
490     :
500     REMark get offset alphabet codes:
510     dn$=down$(i$): rand=To_Dec(dn$,bas):
r2=rand*2: cell=adr+r2
520     :
530     REMark tally the database:
540     tally=PEEK_W(cell): POKE_W cell,tally+1
550     IF tally > 32764: PRINT 'tally overflow':
STOP
560     IF pr: PRINT!i$!
570 END FOR ct
580 PRINT\\DATE-d1!'secs'\\
590 END DEFine
600 :
610 DEFine PROCedure SHOWem
620 LOCal d1,ct,cell,ct2,sorted$,s$,twins
630 REMark set timer
640 d1=DATE: IF d1=DATE: GO TO 640 : ELSE d1=DATE
650 :
660 REMark search ram for tallies:
670 FOR ct=0 TO ramtop STEP 2
680     REMark see if cell contains a tally:
690     cell=adr+ct: tally=PEEK_W(cell)
```

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```
700         IF tally THEN
710             REMark Are there twin words:
720             ct2=ct/2: sort$=To_Base$(ct2,bas):
sorted$=up$(sort$)
730             IF pr: FOR twins=1 TO tally: PRINT
sorted$!!
740         END IF
750 END FOR ct
760 PRINT \\DATE-d1!'secs'
770 END DEFine
780 ::
790 ::
800 REMark Base_Conversions, by D.Jones
810 REMark QLT v10,i3, p43.
820 :
830 DEFine FuNction To_Base$(dc,base)
840     LOCal x,c,c$
850     x=dc
860     c$=''
870     REPEAT loop
880         c=x-(INT(x/base)*base)
890         IF c<10 THEN
900             c$=CHR$(48+c)&c$
910         ELSE
920             c$=CHR$(55+c)&c$
930     END IF
```

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```
940      x=INT(x/base)
950      IF x<=0: EXIT loop
960 END REPEAT loop
970  RETURN c$
980 END DEFINE
990  :
1000 DEFINE FUNCTION To_Dec (bs$,base)
1010  LOCAL d,l,n,v
1020  d=0
1030  l=LEN(bs$)
1040  FOR n=1 TO l
1050      v=CODE (bs$(n))
1060      v=v-48
1070      IF v>9: v=v-7
1080      IF v>15: v=v-32
1090      d=d+base^(l-n)*v
1100  END FOR n
1110  RETURN d
1120 END DEFINE
1130 ::::
1140 ::::
1150 REMARK character offsets by S.Poole:
1160  :
1170 DEFINE FUNCTION down$( wrd$)
1180 REMARK down to alphanumeric
```

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```
1190 LOCAL f,ch$,w$,cd: ch$=''
1200 FOR f=1 TO LEN(wrd$)
1210     w$=wrđ$(f): cd=CODE(w$)
1220     REMark zero is ``':
1230     SElect cd
1240         =96 TO 105 : ch$=ch$&CHR$(cd-48)
1250         =106 TO 122 : ch$=ch$&CHR$(cd-9)
1260         =REMAINDER : BEEP 12345,67: STOP
1270     END SElect
1280 END FOR f: RETurn ch$
1290 END DEFine
1300 :
1310 DEFine FuNction up$(wd$)
1320 REMark back up to alphabet
1330 LOCAL f,ch$,w$,cd: ch$=''
1340 FOR f=1 TO LEN(wd$)
1350     w$=wd$(f): cd=CODE(w$)
1360     SElect cd
1370         =48 TO 57 : ch$=ch$&CHR$(cd+16)
1380         =65 TO 81 : ch$=ch$&CHR$(cd+9)
1390         = REMAINDER : BEEP 12345,67: STOP
1400     END SElect
1410 END FOR f: RETurn ch$
1420 END DEFine
```

(This tallying text program should appeal for people with very big high-end computer access i.e. 64bit systems. Steve and Dilwyn would welcome ideas and comments on its use and any suggestions for improvement as this can now be considered a QUANTA project - Ed.)

C68 has libraries giving access to the QDOS operating system. While these work admirably they can be slightly awkward to use and as a result I found an easier way of performing screen operations which some may find interesting, or even useful. I have defined a set of commands, listed below, in terms of functions which themselves call the C68 QDOS functions. As well as these commands there is provided a 256-byte buffer which is called "buff".

An example of all this is the command to print "Hullo". This is, simply:

```
PRINT(2,Hullo);
```

This will print "Hullo" to channel 2. If this con channel does not exist, it is opened. Admittedly, it will be opened as a default window and will not be cleared before the "Hullo" is printed. But it works!

All the commands have, as first parameter, the channel number which must be within 0 to 31.

To set the buffer you need:

```
char * buff;  
buff = setbuff();
```

The meaning and use of the commands listed below should be reasonably clear, except perhaps for EDIT. This allows editing of the

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contents of the buffer. This should, of course, be a C string starting at the beginning of the buffer.

The editing uses the window indicated as the first parameter of EDIT. The second parameter gives the maximum string length allowed, which includes the terminating character.

The editing will start on the screen wherever the cursor happens to be. Thus you can print to the screen "Edit this", and then issue the command AT(h,10,0) to have the editing take place just one space after the prompt. Of course it might be better to ignore the AT command and print "Edit this\040". With luck this should produce a space after the "this", which is effectively what the AT command does.

Here follow the commands (Perhaps in a later article I will divulge the way in which these commands are produced).

Window Commands

In the following "h" is a number from 0 to 31 indicating the channel wanted.

AT(h,x-position,y-position)

BLOCK(h,x-size,y-size,x-origin,y-origin,colour)

BORDER(h,width,colour)

BPRINT(h) prints the contents of the buffer

"buff"

CHENQ(h,x) puts the cursor character position in

buff + x

Csize(h,x,y) with x = 0 to 3, y = 0 to 1 as

BASIC.

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CURSOR(h,x,y) x, y is the cursor position to be set (in pixels)

EDIT(h,x,y) x is buffer size (<128), y is the cursor position

INK(h,colour)

OVER(h,x) with x = -1, 0 or 1

PAN(h,x,y) with x = + or - pixel move, y = BASIC 0, 3 or 4.

PAPER(h,colour) - NB this does STRIP as well (as does BASIC)

PRINT(h,m) prints the message m [eg PRINT(0,This is so)]

PRINTD(h,wh) prints the "int" wh as decimal

PRINTFP(h,wh) prints the QL fp number as decimal

PRINTH(h,wh) prints the "int" wh as hexadecimal

PXENQ(h,x) puts the cursor pixel position @ buff + x

SCROLL(h,x,y) with x = + or - pixel move, y = BASIC 0, 1 or 2.

STRIP(h,colour)

TAB(h,x-position)

UNDER(h,x) with x=0 no underline, x=1 underline

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WINDOW(h, x-size, y-size, x-origin, y-origin, border
colour, border width)

Graphics (l... use "int" - others use "double")

Here xs, ys and xe, ye are the start and end points

a is an angle (in radians)

xc, yc is the centre of an ellipse

e is an ellipse's eccentricity

r is an ellipse's major axis (assuming e between 0 and 1)

s is the graphic's scale

v, z is the graphic position of cursor

x, y is the relative pixel position of cursor

ARC(h, xs, ys, xe, ye, a) Draws arc

IARC(h, xs, ys, xe, ye, a)

CIRCLE(h, xc, yc, e, r, a) Draws ellipse

ICIRCLE(h, xc, yc, e, r, a)

LINE(h, xs, ys, xe, ye) Draws line

ILINE(h, xs, ys, xe, ye)

POINT(h, x, y) Draws point

IPOINT(h, x, y)

SCALE(h, s, x, y) Sets scale

ISCALE(h, s, x, y)

QUANTA Magazine

GCUR(h,v,z,x,y) Sets graphics cursor and pixel offset

IGCUR(h,v,z,x,y)

FLOOD(h,o) Sets FILL on or off

Extended colours

The following 15 are three groups of 5.

In the name "a" stands for P, T or N which mean palette, true or native.

PAPERa(h, colour, stipple)

STRIPa(h, colour, stipple)

INKa(h, colour, stipple)

BORDERa(h, colour, stipple, width)

BLOCKa(h, x-size, y-size, x-origin, y-origin, colour1, colour2, stipple)

New WMAN colours

WM_BLOCK(h, x-size, y-size, x-origin, y-origin, colour)

WM_BORDER(h, width, colour)

WM_STRIP(h, colour)

WM_INK(h, colour)

WM_PAPER(h, colour)

QL Today Volume 16

We at QL Today are now in our 16th year! The issue 1 of Volume 16 will come with a DVD (included in the price) containing all previous issues of QL Today in PDF format - from Volume 1 to Volume 15, English and German (as long as German ones were produced). By subscribing for Volume 16, you get 15 complete Volumes from the past to read as well! Issue 1 and 2 (another great issue!) are still available and will come to you if you subscribe now. Issue 3 is currently under production and will be shipped to the readers approx. middle of March.

You can subscribe by using this form (or a copy of it), or subscribe online via www.QLToday.com (the form can be downloaded), by email, letter, fax etc. ... we are flexible!

If you renewed already for Volume 16 please send an email to SMSQ@J-M-S.com ... according to our information, it has not been renewed. Thank you.



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SUBGROUP MEETINGS

Sub group meetings are where QUANTA members and non-QUANTA members get together to discuss, tinker and explore all things QL related. If there is a subgroup near you then why not pop along and see what's happening, you never know there may be something you could help with or a problem that you know the answer to. If there is not a sub-group near you why not hold one yourself? (Ed.)

THE WEST MIDLANDS QL USER GROUP

The meeting place is called the Bull, the address is 1 Price Street, Birmingham, B4 6JU. It is approximately 7 minutes walk from Snow Hill main-line railway station and has ample street parking nearby. Meetings remain open to QUANTA members and non-members alike.

After your first meeting you're expected to pay £1 each time towards the organisation and monthly newsletter costs - except once a year when the group pays all those who attend a pound instead ;-)

We provide food twice a year for those who attend the AGM and the group's birthday party) and at meetings we discuss all sorts of things, QL-related and otherwise, usually from about 8:20pm onwards till 10:30 or later. The group owns QL hardware, a disk library and subscribes to relevant magazines. People can join the mailing list for £3.50 per year, even if they can't attend regularly.

Meetings: Meetings are usually on the first and third Monday of each month (but not on bank holidays unless the previous one was cancelled for that reason).

Contact: The contact number remains Mike Bedford White's, on 0121 605 4438, anytime after 11am.

[Email: mikebwhite@blueyonder.co.uk](mailto:mikebwhite@blueyonder.co.uk)

QUANTA DORSET SUBGROUP – Dorset

Meetings are held, on the second Sunday of each month between 2.00pm and 5.00pm. For location please contact: John Penn-Simkins - 01202 422491 or John Mason - 01425 275894

LONDON QL AND QUANTA GROUP

Meetings are held in the School Room, which is the basement of the Borough Welsh Congregational Chapel, 90, Southwark Bridge Road, London SE1. This is almost opposite the junction with Marshalsea Road, at the other end of which, 5 minutes walk away, is the Borough Underground Station. Free parking is easily available in Southwark Bridge Road for road users, Cyclists are welcome. Members currently each pay a subscription of £40 per year towards the cost of the hire of the hall and a small additional charge is made for tea/coffee - biscuits are then provided free.

Please bring your QL equipment if possible, all types welcome, e.g., PC portable running emulators. The Group has some systems stored at the venue for its use. In addition, there are lots of donated second user equipment, books, magazines, etc., available for purchase. Time: 2.00 pm. to 5.00 pm., on the second Sunday of the month. No meetings are held in December / January - winter break, or July / August –the summer break, giving 8 meetings a year. Malcolm Cadman - 020 8691 5780
[Email: QL@mcad.demon.co.uk](mailto:QL@mcad.demon.co.uk)

NEMQLUG - THE NORTH EAST MANCHESTER QL USER GROUP

Meetings are held at 181, Urmston Lane, Stretford, Manchester. M32 9EH (Near Junction 7 of M60 Motorway •Was Junction 7 M63 Motorway). Our informal meetings start at 7 p.m. and finish at 11 pm. All welcome. Meetings are on the last Thursday of each month (except December). John/Sarah Gilpin – 0161 865 2872 (thegilpins@btinternet.com)

SCOTTISH QL USERS GROUP

S QLUG meets at George Gwilt's home every second Sunday in the month. Please contact George Gwilt before coming, to get the location. Gdgqler@gmail.com

SOLENT SUBGROUP

M eetings are at Botley Market Hall, all welcome. Park at the back and use side entrance on the 1st Saturday of the month from 2.00 pm to 6.00 pm. Graham Evans - 023 8040 3350.

SURREY QUANTA SUBGROUP (SQSG)

T he group is currently trying other venues in the Leatherhead - Epsom area. If you plan to attend but do not get our emails, please phone or email Ken Bain for the latest location. Meetings are 8.00 to 10.00 pm on the last Wednesday of each month except December. Ken Bain - 01932 347432 (to midnight), kenb@bcs.org.uk

SUSSEX QL USER GROUP

C urrently without a meeting place, anyone interested should contact Roy Wood - 01273 430501 or Keith Mitchell - 01903 742263.

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QUANTA Magazine

WM_WINDOW(h, x-size, y-size, x-origin, y-origin, border colour, border width)

Cursor movements

NL(h) -> new line

UP(h) -> previous line

DOWN(h) -> to next line

LEFT(h) -> left one character

RIGHT(h) -> right one character

CLS(h, x) with x = 0 to 4 as BASIC

File operation

FBYTE(h, timeout) returns a byte without echoing it on the screen.

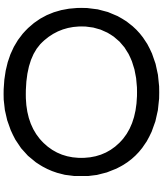
(If not pointer environment a cursor is provided.)

Channel Base

CH_BASE(h) returns the channel base (+\$30 if PE)

LATE NEWS

Lee Privett



One more thing to add that missed the news section is that we now have a Facebook presence, and you can find us here <http://www.facebook.com/pages/QUANTA/210849812344984?sk=wall> however, you will need a Facebook account (it is free).

ACOS, ASIN
ACOT, ATAN
ACOS and ASIN
respectively.
calculate the
limit to the size

cosine and the arc sin
arc cotangent and AT
o effective

syntax: angle: θ (in radians)

ACOS (angle)
ACOT (angle)
ASIN (angle)
ATAN (angle)

example:
ii. PR
iii. PR
iv. PR

AD
AD
S



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